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ABSTRACT

The study evaluated progress made by trainable mentally retarded (TMR) persons in community centered programs, which allow them to remain with their families and in the community rather than being institutionalized. Evaluated were two experimental groups numbering 12 and 22 persons (mean ages 10 years 7 months and 10 years 2 months) who had been enrolled in two different community centered programs for 1-6 years (mean of 3 years), and a control group of 20 subjects (mean age 9 years 9 months) waiting to be enrolled. The TMR Performance Profile, a descriptive behavioral measure, was used to assess subjects' abilities in five major areas of daily activities: social behavior, self-care, communication, basic knowledge, and body usage. Both experimental groups scored significantly higher than the control group in all areas except self-care, in which only one experimental group scored significantly higher. It is concluded that systematic training programs as exemplified by the community centered concept significantly improve the skills and functioning of the TMR and that the development of such community centered programs is justified. (KW)

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STATE OF COLORADO
DEPARTMENT OF INSTITUTIONS
COMMUNITY CENTERED SERVICES
DIVISION OF MENTAL RETARDATION

A SAMPLING OF PROGRESS ACHIEVED BY TRAINABLE MENTALLY RETARDED PERSONS ENROLLED IN COMMUNITY CENTERED PROGRAMS IN THE STATE OF COLORADO

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INNOVATIONS IN PROGRAMMING FOR THE
MENTALLY RETARDED AND SERIOUSLY HANDICAPPED

Hilbert Schauer, Executive Director
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A sampling of Progress Achieved by Trainable Mentally Retarded Persons Enrolled in Community Centered Programs in the State of Colorado*

INTRODUCTION

The community centered program is a relatively new concept in the field of mental retardation. Colorado's program was established in 1964 and presently includes 23 community centers serving some 1800 enrollees. The broad objective of these programs is to enhance, insofar as possible, the training and skills of the trainable mentally retarded. The most significant advantage of the community centered approach is in enabling enrollees to remain with their families and in the community, as opposed to institutionalization.

One of the first questions one wants to know in establishing a program for the mentally retarded child is, "What is his present level of functioning?" This is an assessment problem which, when adequately approached, has to take into account several areas of the child's daily activities. Some of these areas are taken for granted when one's concerns are with the "normal." Assessment of the retardates' abilities is provided by descriptive behavioral measures. One such measure was used in this study to assess program effects. The study was designed to determine change in level of functioning as a result of involvement in a community centered program. Secondary interest was in the differences between the two programs selected. The results will

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individual scores from 22 to 62. I.Q.-S.Q. levels were used instead of test scores because of the numerous different types of tests administered, and because of the minor variations among these test scores.

3. Ambulation. Subjects were selected for their ability to walk, although, this included walking with difficulty as limping or uncoordinated gait, or walking only with assistance as with crutches or braces. Chair-bound enrollees were excluded on the basis that the T.M.R. Profile taps several areas in which these enrollees could not function.

4. Vision. Subjects were selected to eliminate the blind enrollees. It was assumed that the blind was not representative of the T.M.R. population. No attempt was made to eliminate perceptual problems.

5. Hearing. As with vision, subjects were selected to eliminate the deaf. All subjects had apparently normal hearing.

6. Communication. Subjects were required to communicate with at least sound and gestures. Sound and gestures were included since the typical community centered program is aimed at elevating less verbal communication to understandable speech.

After eliminating the enrollees falling outside of these established ranges, the remaining enrollees were used as subjects. They numbered 20 for the Control Group.

Two experimental groups were selected. They represented enrollees who had been in program from one to six years with a

mean of three years. They were selcted from two different community centers. Subjects were randomly selected from those enrollees meeting the criteria. Experimental Group One was composed of 12 subjects and Group Two, 22 subjects. A sample size of 30 subjects per group was sought but had to be limited by testing time and other factors relating to criteria variables. A comparison of the two experimental groups with each other and with the Control on the criteria variables is presented in Table 1.

It can be seen from Table 1 that the Control group numbered 20 subjects with a mean age of nine years and nine months. They ranged about the moderate level of retardation and have no grossly impairing sensorimotor difficulties. In comparison, the two experimental groups numbered 12 and 22 subjects each and have a slightly higher mean age of 10 years and 7 months and 10 years and 2 months for Groups One and Two, respectively. The age differential existing between the experimental and the Control groups is assumed to be negligible in that maturational rates for the T.M.R. are considerably slower than that of the "normal" child, and hence, not expected to appreciably influence the results. Both experimental groups were similar to the Control in ranging about the moderate level of retardation and having no grossly impairing sensorimotor difficulties. These comparisons suggest groups adequately equivalent to reflect program effects.

PROCEDURES

The T.M.R. Performance Profile was administered to all subjects by community center staff most familiar with each student. In most cases, this was a teacher or teachers who had the student in his class the prior semester. Some of the evaluations were completed by two or three different evaluators. The Contol Group and experimental Group One were evaluated in June. Experimental Group Two was evaluated in May.

Each evaluator rated the student in accordance with the instructions of the test manual. Items that had not been observed were given a rating of "X" and treated as errors in the analysis. The author scored all ratings per manual's instructions.

Reliability of ratings was not determined because of the number of evaluators involved in many of the ratings and because of the lengthy process required in completing a single evaluation. In many cases evaluators volunteered their time to participate in the study.

Reliability was accepted on the basis of studies reported by Abelson and Payne (1969). They revealed that both professionals and non-professionals are reliable raters of observable behaviors. In view of the lack of definite reliability checks, the results should be interpreted with some caution.

THE T.M.R. PERFORMANCE PROFILE

The T.M.R. Performance Profile was selected from several evaluative scales of T.M.R. behavior. It was designed to determine

the T.M.R.'s performance level on six major areas of daily activities: (a) social behavior, (b) self-care, (c) communication, (d) basic knowledge, (e) practical skills, and (f) body usage. Each of these major areas is subdivided into four more specific areas that are rated on ten items each. Each item received a five point rating from "no performance" to some level just beyond the realistic goal for T.M.R.s. The ratings are based on teacher-observation. The six major areas were defined as follows:

(a) Social Behavior concerned items on self-control, personality, group participation, and social amenities.

(b) Self-Care concerned items on bathroom and grooming, dealing with food, clothing, and safety.

(c) Communication concerned items on modes of communication listening, language usage, and language skills.

(d) Basic Knowledge concerned items on information, numbers, awareness, and social studies.

(e) Practical Skills concerned items on tools, household activities, family chores, and vocational readiness.

(f) Body Usage concerned items on coordination, health habits, fitness, and eye-hand coordination.

The Performance Profile is particularly suited to the evaluation undertaken. A typical community centered program aims to provide education and training to the maximum ability of the individual. Its curriculum focuses upon the areas of self-care, language development, motor coordination, social adjustment,

and functionally academic study. The Performance Profile provides an evaluation on all of these levels and in the process, points out areas of need and growth, and ideas for curriculum change.

RESULTS

The Performance Profile provided for each subject:

(a) a score (habilitation level) on each of the six major areas evaluated,

(b) a habilitation index,

(c) and an X score (items not observed).

Means were computed on each of the six habilitation levels and the habilitation index for the three groups, and were used to compute t-ratios for intergroup comparisons. X scores represented items not rated which reduced the individual habilitation levels. They were thus treated as errors in the analysis. Each comparison should be interpreted in view of the groups' X scores. Table 2 presents the comparison data.

For Social Behavior, X scores were not large enough and not significantly different from each other to warrant caution. Comparisons between both experimental groups and the Control were highly significant, $t=6.218$, $p<.001$ and $t=3.375$, $p<.001$ for Groups One and Two, respectively. In addition, Group One scored significantly higher than Group Two, $t=2.362$, $p<.025$.

Error values for self-care were somewhat more variable. Group Two differed by 6.2 points from Control. This difference may have accounted for the insignificant difference obtained

between these two groups. Group One did, however, differ significantly from Control, $t=3.879$, $p<.001$. It was expected that Group One would also differ significantly from Group Two in view of the large error difference between these two also.

Little or no differences were observed in X scores for Communication. Variability and the number of errors were within acceptable limits. Comparisons between both experimental groups and the Control were highly significant, $t=6.568$, $p<.001$ and $t=2.948$, $p<.005$ for Groups One and Two, respectively. Group Two, as before, varied significantly from Group One, $t=3.990$, $p<.001$.

Error values for Basic Knowledge were also insignificant. The comparisons revealed significant differences between both experimental groups and the Control, $t=5.826$, $p<.001$ and $t=2.903$, $p<.005$ for Groups One and Two, respectively. As on the other variables, Group One differed significantly from Group Two, $t=3.431$, $p<.001$.

The error values for Body Usage were somewhat more variable. The Control Group yielded the smallest error value which provided additional support for the mean differences obtained. Comparisons among groups revealed significant differences between both experimental groups and the Control, $t=5.085$, $p<.001$ and $t=2.737$, $p<.005$ for Groups One and Two, respectively. Group One also varied significantly from Group Two as above, $t=2.900$, $p<.005$.

Because of the high percentage of X scores for Practical Skills, comparisons could not be made on this variable. Forty-one percent of these items had not been observed for the Control,

38 percent for Group One, and 71 percent for Group Two. Likewise, the Habilitation Index is questionable. It is based on the summation of the six habilitation levels and thereby reflects the large error score of Practical Skills.

CONCLUSION

The results revealed that comparisons between Group One and the Control were highly significant. Group One scored considerably higher than the Control on five of the six areas evaluated. These areas included Social Behavior, Self-Care, Communication, Basic Knowledge, and Body Usage. The sixth area, Practical Skills, was not scoreable because of the large percentage of items not rated in both groups. Likewise, Group Two scored significantly better than the Control on the same set of variables with the exception of Self-Care. This may be attributed to the larger error value of Group Two on this variable. Since the error score represents items not evaluated, each group's mean was reduced by the size of its error term which would account for Group Two's lower mean value.

Mean scores for each of the five variables compared are plotted in Figure 1. Figure 1 provides a graphic presentation of the conclusion drawn from these data. That is, moderately retarded individuals that have been in a community centered program for approximately three years, and that are not grossly impaired in sensorimotor development, will score significantly better on a measure of their functioning level than a similar

group that has not been exposed to a similar program. This conclusion is one that nearly every teacher of T.M.R.'s know from experience, but perhaps may not be able to empirically justify.

Figure 1 also points out another not too surprising conclusion, that of differences between programs. Group One differed significantly from Group Two on each of the five variables compared, $p < .025$. This difference may in part reflect sampling error in that Group One was comprised of a much smaller sample which could have contained a larger percentage of higher functioning individuals. The difference may also in part reflect the measuring scales amenability to Group One's program. With due consideration of both of these possibilities, the difference is worthy of further investigation.

Given the sample described, the Control Group's profile provides a baseline for performance of newly admitted enrollees. The T.M.R. Performance Profile established as a reasonable goal for T.M.R.s, a habilitation level of 120. It is evident from Figure 1 that the new enrollee is closer to this goal in social behavior and self-care than in communication, basic knowledge, and body usage. The data suggests that these latter three areas undergo marked improvement in a community centered program.

The area of Practical Skills was identified as defining one significant area of the T.M.R.'s daily activities. The items comprising this area all relate to sheltered workshop and household activities. Therefore, it is not surprising

that Practical Skills yielded such a large percentage of items not evaluated. The ten year age group has not begun the sheltered workshop phase of their program and household activities have little chance of being observed in a non-resident setting.

In conclusion, a systematic program as exemplified by the community centered concept has a tremendous effect upon the social behavior, self-care, communication, basic knowledge, and body usage areas of T.M.R.s functioning. The results amply justify the development of community centered programs to enable the T.M.R. to participate more fully in the activities in his immediate environment. Other studies need to be undertaken on different samples of the T.M.R. population. These studies would provide guidelines for developing programs best suited to the needs of the T.M.R. and to his current level of functioning.

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TABLE 1

Description of the T.M.R. samples used in the evaluation.

	EXPERIMENTAL GROUP 1	EXPERIMENTAL GROUP 2	CONTROL GROUP
No. of Subjects	12	22	20
Time in Program	3 yr.	3 yr. 5 mo.	0
Age (mean)	10 yr. 7 mo.	10 yr. 2 mo.	9 yr. 9 mo.
Level of Retardation	Moderate	Moderate	Moderate
Severe (no.)	1	5	3
Moderate (no.)	9	15	15
Mild (no.)	2	2	2
Ambulation (no.)			
No difficulty	12	20	15
Walks with difficulty	0	2	1
Walks only with assist.	0	0	4
Vision (no.)			
Apparently normal	11	17	18
Glasses prescribed	1	4	1
Other visual problems	0	1	1
Hearing (no.)			
Apparently normal	12	21	20
Hearing problem	0	1	0
Communication (no.)			
Speech	12	22	18
Sounds and gestures	0	0	2

TABLE 2

Mean habilitation levels (HL), standard deviations (SD) and errors (X) for two experimental groups and the control on six areas of T.M.R. functioning. Habile Index represents composite score of the six variables evaluated.

		CONTROL	GROUP 1	GROUP 2
SOCIAL BEHAVIOR	HL	57.75	97.58	81.50
	SD	21.02	15.09	24.57
	X	3.5	0.8	1.7
SELF-CARE	HL	65.70	95.92	71.32
	SD	26.69	17.13	18.96
	X	2.7	3.9	8.9
COMMUNICATION	HL	46.50	98.92	69.45
	SD	26.42	18.58	23.80
	X	1.9	1.7	2.3
BASIC KNOWLEDGE	HL	31.45	80.08	53.63
	SD	26.16	20.62	22.97
	X	4.8	2.5	4.3
BODY USAGE	HL	44.90	86.17	66.64
	SD	28.91	16.99	21.64
	X	0.8	3.1	4.9
PRACTICAL SKILLS	HL	26.95	51.50	21.09
	SD	21.39	9.02	14.95
	X	16.3	15.8	28.6
HABILE INDEX		37.55	70.50	50.05
	SD	18.04	10.50	15.36
	X	30.0	27.8	50.7

FIGURE 1

Graph of mean scores of experimental Groups 1 and 2 and the Control on five major areas of T.M.R. functioning. All comparisons are significant at $p < .025$ with the exception of Group 2 with Control on Self-Care.